

California Arbovirus Surveillance Bulletin #23

Week 36 Friday, September 6, 2019



Weekly Update

Humans

West Nile virus

A total of 5 human cases of West Nile virus (WNV) illness were reported this week from 4 counties: Los Angeles (1), Orange (1), Stanislaus (2), and Tulare (1). **This is the first WNV case reported from Orange County this year.** In 2019, 62 WNV human cases have been reported from 13 counties. Of the 62 reported cases, 38 (61%) were classified as neuroinvasive disease and 2 (3.2%) fatalities have been reported. The median age of the individuals is 57 years (range: 15–93 years) and 37 (60%) are male. Dates of symptom onset range from May 12 to August 18. In addition to the 62 cases, 14 asymptomatic infections have also been reported from Butte (1), El Dorado (1), Kern (3), Madera (1), San Bernardino (4), San Joaquin (1), Shasta (1), Stanislaus (1), and Sutter (1) counties. At this time last year, 56 human cases had been reported from 21 counties.

St. Louis encephalitis virus

No new cases were reported this week. In 2019, 3 human cases of St. Louis encephalitis virus (SLEV) disease have been reported from 2 counties: Fresno (1) and Imperial (2). Of the 3 reported cases, 3 (100%) were classified as neuroinvasive disease. The median age of the individuals is 49 years and dates of symptom onset range from July 14 to July 27. No fatalities have been reported.

Dead Birds

A total of 12 WNV positive dead birds were reported this week from 6 counties: Contra Costa (1), Kern (1), Orange (1), Sacramento (4), San Bernardino (3), and Yolo (2). **These are the first WNV positive birds in Contra Costa, San Bernardino, and Yolo counties this year.** In 2019, a total of 103 WNV positive dead birds have been reported from 16 counties. At this time last year, 422 WNV positive dead birds had been reported from 18 counties.

Mosquito Pools

West Nile virus

A total of 299 WNV positive mosquito pools were reported this week from 18 counties: Butte (5), Fresno (35), Kern (4), Kings (13), Los Angeles (11), Madera (6), Merced (8), Orange (66), Placer (3), Riverside (7), Sacramento (5), San Bernardino (6), San Joaquin (58), Stanislaus (8), Sutter (1), Tulare (54), Yolo (8), and Yuba (1). In 2019, a total of 2,815 WNV positive mosquito pools have been reported from 24 counties. At this time last year, 1,606 WNV positive mosquito pools had been reported from 28 counties.

St. Louis encephalitis virus

A total of 46 SLEV positive mosquito pools were reported this week from 8 counties: Fresno (5), Kern (2), Kings (1), Merced (1), Orange (1), Riverside (22), Stanislaus (2), and Tulare (12). **This is the first detection of SLEV activity in Merced and Orange counties this year.** In 2019, a total of 224 SLEV positive mosquito pools have been reported from 9 counties: Fresno (41), Imperial (3), Kern (50), Kings (2), Merced (1), Orange (1), Riverside (56), Stanislaus (3), and Tulare (67). At this time last year, 295 SLEV positive mosquito pools had been reported from 8 counties.

Sentinel Chickens

A total of 28 WNV seroconversions were reported this week from 7 counties: Butte (13), Colusa (4), Contra Costa (1), Merced (4), Sutter (3), Tehama (2), and Yuba (1). **This is the first detection of WNV activity in**

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Colusa, Contra Costa, and Tehama counties this year. In 2019, 81 WNV positive chickens have been reported from 11 counties. At this time last year, 104 WNV positive chickens had been reported from 13 counties.

YTD WNV Activity by Element and County, 2019					
County	Humans	Horses	Dead Birds	Mosquito Pools	Sentinel Chickens
Butte	3			41	25
Colusa					4
Contra Costa			1		1
Fresno	27	1	10	451	
Glenn				1	1
Imperial	3			1	
Kern	3	2	2	122	
Kings				58	
Lake				6	
Los Angeles	5		11	39	9
Madera		1		63	
Merced			2	35	14
Orange	1		13	85	
Placer			2	50	6
Riverside	2			506	
Sacramento			30	53	
San Bernardino	2	1	3	46	
San Diego	3		1		
San Joaquin	2		5	238	
Shasta				3	
Solano	1			1	
Stanislaus	3	2	1	163	
Sutter				15	7
Tehama					2
Tulare	7		16	771	10
Tuolumne			1		
Ventura				1	
Yolo			2	44	
Yuba			3	22	2
Totals	62	7	103	2,815	81

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2018 & 2019 YTD West Nile Virus Comparisons		
	2018	2019
Total # Dead Bird Reports	6,278	4,161
# Positive Counties	37	29
# Human Cases	56	62
# Positive Dead Birds / # Tested	422 / 1,664	103 / 1,269
# Positive Mosquito Pools / # Tested	1,606 / 31,972	2,815 / 33,377
# Seroconversions / # Tested	104 / 7,217	81 / 6,363

TESTING SUMMARIES

Humans

		WNV	SLE	WEE
Human Cases	Week	5	0	0
	YTD	62	3	0

Dead Birds

		Number Tested	WNV Positive
Dead Birds	Week	38	12
	YTD	1,269	103

Chickens

		Number Tested	WNV Positive	SLEV Positive	WEEV Positive
Chicken Sera	Week	352	28	0	0
	YTD	6,363	81	0	0

Mosquitoes

		Positive / Total Tested					
Mosquito Pools	Week	WNV	SLEV	WEEV	CHIK	DENV	ZIKA
		299 / 2,076	46 / 1,713	0 / 1,540	0 / 36	0 / 36	0 / 36
		YTD	2,815 / 33,377	224 / 30,203	0 / 28,181	0 / 577	0 / 577

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POSITIVES

Dead Birds

County	Agency	City	Zip Code	Species	Date Reported	Virus
Contra Costa	Contra Costa MVCD	Danville	94526	American Crow	9/3/2019	WNV
Kern	Kern MVCD	Bakersfield	93307	American Crow	8/26/2019	WNV
Orange	Orange Co VCD	Fullerton	98231	House Sparrow	8/30/2019	WNV
Sacramento	Sacramento-Yolo MVCD	Elk Grove	95757	Mourning Dove	8/30/2019	WNV
Sacramento	Sacramento-Yolo MVCD	Rio Linda	95673	Yellow-billed Magpie	8/30/2019	WNV
Sacramento	Sacramento-Yolo MVCD	Sacramento	95821	California Scrub-Jay	9/2/2019	WNV
Sacramento	Sacramento-Yolo MVCD	Wilton	95693	American Crow	8/29/2019	WNV
San Bernardino	West Valley MVCD	Chino	91710	American Crow	9/5/2019	WNV
San Bernardino	West Valley MVCD	Ontario	91762	American Crow	9/3/2019	WNV
San Bernardino	West Valley MVCD	Upland	91786	American Crow	8/2/2019	WNV
Yolo	Sacramento-Yolo MVCD	Davis	95616	American Crow	8/28/2019	WNV
Yolo	Sacramento-Yolo MVCD	Davis	95618	California Scrub-Jay	8/31/2019	WNV

Mosquito Pools

County	Site Code	Pool #	Species	City	# in Pool	Trap Type	Collected	Virus
Butte	BUCO142	351	Cx. tarsalis	Gridley	50	CO2	8/28/19	WNV
Butte	BUCO142	353	Cx. tarsalis	Gridley	50	CO2	8/28/19	WNV
Butte	BUCO67	359	Cx. tarsalis	Gridley	50	CO2	8/28/19	WNV
Butte	BUCO67	360	Cx. tarsalis	Gridley	50	CO2	8/28/19	WNV
Butte	BUCO145	363	Cx. tarsalis	Palermo	50	CO2	9/3/19	WNV
Fresno	FRWS100005	247	Cx. quinquefasciatus	Firebaugh	33	CO2	8/28/19	SLEV
Fresno	FRWS100005	248	Cx. tarsalis	Firebaugh	42	CO2	8/28/19	WNV
Fresno	FRWS4100	249	Cx. tarsalis		50	CO2	8/29/19	WNV
Fresno	FRWS4100	250	Cx. tarsalis		50	CO2	8/29/19	WNV
Fresno	FRWS5113	251	Cx. tarsalis		50	CO2	8/29/19	WNV
Fresno	FRWS40041	252	Cx. tarsalis		50	CO2	8/29/19	WNV
Fresno	FRWS3104	259	Cx. tarsalis	Firebaugh	26	CO2	9/4/19	WNV
Fresno	FRWS2105	261	Cx. tarsalis	Firebaugh	50	CO2	9/4/19	SLEV
Fresno	FRWS2105	261	Cx. tarsalis	Firebaugh	50	CO2	9/4/19	WNV
Fresno	FRWS200003	264	Cx. tarsalis	Firebaugh	50	CO2	9/4/19	WNV
Fresno	FRWS4102	271	Cx. quinquefasciatus	Kerman	47	CO2	9/4/19	WNV
Fresno	FRWS4102	272	Cx. tarsalis	Kerman	50	CO2	9/4/19	SLEV
Fresno	FRWS4102	272	Cx. tarsalis	Kerman	50	CO2	9/4/19	WNV
Fresno	FRWS4102	273	Cx. tarsalis	Kerman	47	CO2	9/4/19	WNV
Fresno	CNSL3186	414	Cx. quinquefasciatus	Parlier-Del Rey	25	GRVD	8/27/19	WNV
Fresno	CNSL3334	415	Cx. quinquefasciatus	Reedley	35	BGSENT	8/27/19	WNV
Fresno	CNSL2271	549	Cx. quinquefasciatus	Sanger	39	GRVD	8/27/19	WNV
Fresno	CNSL3384	556	Cx. quinquefasciatus	Parlier-Del Rey	36	BGSENT	8/27/19	WNV
Fresno	CNSL4228	583	Cx. quinquefasciatus	Sanger	14	GRVD	8/27/19	SLEV
Fresno	CNSL5142	585	Cx. quinquefasciatus	Kingsburg	12	GRVD	8/27/19	WNV
Fresno	CNSL6167	593	Cx. quinquefasciatus	Riverdale	50	BGSENT	8/27/19	WNV
Fresno	CNSL5042	642	Cx. quinquefasciatus	Kingsburg	26	GRVD	8/27/19	WNV
Fresno	CNSL5038	643	Cx. quinquefasciatus	Kingsburg	19	GRVD	8/27/19	WNV
Fresno	CNSL4221	645	Cx. quinquefasciatus	Selma	17	GRVD	8/27/19	SLEV
Fresno	CNSL1525	650	Cx. quinquefasciatus	Fresno	26	GRVD	8/28/19	WNV
Fresno	CNSL8085	651	Cx. quinquefasciatus	Fresno	14	GRVD	8/28/19	WNV
Fresno	CNSL1610	653	Cx. quinquefasciatus	Fresno	37	GRVD	8/28/19	WNV

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Fresno	CNSL1040	655	Cx. quinquefasciatus	Fresno	50	GRVD	8/28/19	WNV
Fresno	CNSL1418	656	Cx. quinquefasciatus	Fresno	16	GRVD	8/28/19	WNV
Fresno	CNSL1289	657	Cx. quinquefasciatus	Fresno	49	GRVD	8/28/19	WNV
Fresno	CNSL8120	658	Cx. quinquefasciatus	Fresno	29	GRVD	8/28/19	WNV
Fresno	CNSL1110	663	Cx. quinquefasciatus	Fresno	41	GRVD	8/29/19	WNV
Fresno	CNSL8044	671	Cx. quinquefasciatus	Fresno	36	GRVD	8/29/19	WNV
Fresno	CNSL101	678	Cx. quinquefasciatus	Clovis	21	GRVD	8/29/19	WNV
Fresno	CNSL2227	679	Cx. quinquefasciatus	Sanger	13	GRVD	8/30/19	WNV
Fresno	CNSL8125	683	Cx. quinquefasciatus	Clovis	16	GRVD	8/30/19	WNV
Fresno	CNSL1450	686	Cx. quinquefasciatus	Clovis	50	GRVD	8/30/19	WNV
Fresno	CNSL1908	687	Cx. quinquefasciatus	Clovis	50	GRVD	8/30/19	WNV
Fresno	CNSL1335	690	Cx. quinquefasciatus	Fresno	32	GRVD	8/30/19	WNV
Fresno	CNSL1306	692	Cx. quinquefasciatus	Fresno	30	GRVD	8/30/19	WNV
Kern	DLNO135	223	Cx. quinquefasciatus	Delano	12	GRVD	8/30/19	SLEV
Kern	DLNO130	224	Cx. quinquefasciatus	Delano	36	GRVD	9/4/19	WNV
Kern	DLNO105	225	Cx. quinquefasciatus	Delano	50	GRVD	9/4/19	WNV
Kern	KERN114	527	Cx. quinquefasciatus		50	CO2	8/27/19	WNV
Kern	KERN3041	530	Cx. tarsalis	Shafter	30	CO2	8/29/19	WNV
Kern	KERN3027	531	Cx. quinquefasciatus	Tehachapi	30	CO2	8/30/19	SLEV
Kings	KNGS5504	425	Cx. pipiens	Hanford	10	BGSENT	8/27/19	WNV
Kings	KNGS3022	429	Cx. tarsalis	Hanford	23	CO2	8/27/19	SLEV
Kings	KNGS3072	430	Cx. tarsalis	Hanford	42	CO2	8/27/19	WNV
Kings	KNGS3024	432	Cx. pipiens	Lemoore	20	CO2	8/28/19	WNV
Kings	KNGS3024	433	Cx. tarsalis	Lemoore	23	CO2	8/28/19	WNV
Kings	KNGS3083	436	Cx. erythrothorax	Lemoore	20	CO2	8/29/19	WNV
Kings	KNGS3083	437	Cx. tarsalis	Lemoore	20	CO2	8/29/19	WNV
Kings	KNGS3108	438	Cx. tarsalis	Lemoore	43	CO2	8/29/19	WNV
Kings	KNGS5519	445	Cx. pipiens	Hanford	18	BGSENT	8/30/19	WNV
Kings	KNGS3018	449	Cx. pipiens	Hanford	25	CO2	8/30/19	WNV
Kings	KNGS3018	450	Cx. tarsalis	Hanford	50	CO2	8/30/19	WNV
Kings	KNGS3018	452	Cx. tarsalis	Hanford	50	CO2	8/30/19	WNV
Kings	KNGS3018	453	Cx. tarsalis	Hanford	50	CO2	8/30/19	WNV
Kings	KNGS8033	456	Cx. pipiens	Hanford	48	CO2	8/30/19	WNV
Los Angeles	LACW1010	634	Cx. quinquefasciatus	Los Angeles	15	GRVD	8/27/19	WNV
Los Angeles	GRLA2952	856	Cx. quinquefasciatus	South Whittier	50	GRVD	8/29/19	WNV
Los Angeles	GRLA2953	859	Cx. quinquefasciatus	Santa Fe Springs	50	GRVD	8/29/19	WNV
Los Angeles	GRLA2955	861	Cx. quinquefasciatus	Cerritos	42	GRVD	8/29/19	WNV
Los Angeles	GRLA2268	863	Cx. quinquefasciatus	Cerritos	32	GRVD	8/29/19	WNV
Los Angeles	GRLA2166	865	Cx. quinquefasciatus	Montebello	50	GRVD	8/29/19	WNV
Los Angeles	GRLA2995	5794	Cx. quinquefasciatus	Los Angeles	50	GRVD	8/28/19	WNV
Los Angeles	GRLA2554	5795	Cx. quinquefasciatus	Los Angeles	50	GRVD	8/28/19	WNV
Los Angeles	GRLA2724	5797	Cx. quinquefasciatus	Los Angeles	50	GRVD	8/28/19	WNV
Los Angeles	GRLA2029	5798	Cx. quinquefasciatus	Los Angeles	48	GRVD	8/28/19	WNV
Los Angeles	GRLA3036	5799	Cx. quinquefasciatus	Los Angeles	50	GRVD	8/28/19	WNV
Madera	MADR265	243	Cx. quinquefasciatus	Madera	50	CO2	8/27/19	WNV
Madera	MADR265	244	Cx. quinquefasciatus	Madera	50	CO2	8/27/19	WNV
Madera	MADR1109	247	Cx. tarsalis	Madera	38	CO2	8/28/19	WNV
Madera	MADR12	255	Cx. tarsalis	Madera Acres	39	CO2	8/30/19	WNV
Madera	MADR195	256	Cx. quinquefasciatus	Chowchilla	50	CO2	8/30/19	WNV
Madera	MADR195	257	Cx. tarsalis	Chowchilla	50	CO2	8/30/19	WNV
Merced	MERC612	583	Cx. pipiens	Delhi	50	CO2	9/4/19	WNV
Merced	MERC612	584	Cx. pipiens	Delhi	32	CO2	9/4/19	WNV
Merced	MERC405	585	Cx. tarsalis	Hilmar-Irwin	12	CO2	9/4/19	WNV
Merced	MERC405	586	Cx. pipiens	Hilmar-Irwin	50	CO2	9/4/19	WNV

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Merced	MERC402	587	Cx. tarsalis	Hilmar-Irwin	9	CO2	9/4/19	WNV
Merced	MERC402	588	Cx. pipiens	Hilmar-Irwin	38	CO2	9/4/19	WNV
Merced	MERC403	589	Cx. tarsalis	Hilmar-Irwin	8	CO2	9/4/19	WNV
Merced	MERC403	590	Cx. tarsalis	Hilmar-Irwin	13	CO2	9/4/19	WNV
Merced	MERC413	602	Cx. tarsalis	Los Banos	50	CO2	9/5/19	SLEV
Orange	ORCO50	3237	Cx. quinquefasciatus	Buena Park	11	GRVD	8/27/19	WNV
Orange	ORCO323	3252	Cx. quinquefasciatus	Buena Park	30	BGSENT	8/27/19	WNV
Orange	ORCO1015	3272	Cx. quinquefasciatus	Orange	22	GRVD	8/27/19	WNV
Orange	ORCO218	3275	Cx. quinquefasciatus	Anaheim	37	GRVD	8/27/19	WNV
Orange	ORCO218	3278	Cx. quinquefasciatus	Anaheim	40	GRVD	8/27/19	WNV
Orange	ORCO1005	3284	Cx. quinquefasciatus	Buena Park	15	GRVD	8/27/19	WNV
Orange	ORCO218	3286	Cx. quinquefasciatus	Anaheim	7	GRVD	8/27/19	WNV
Orange	ORCO235	3294	Cx. quinquefasciatus	Stanton	44	GRVD	8/28/19	WNV
Orange	ORCO1005	3300	Cx. quinquefasciatus	Buena Park	36	GRVD	8/28/19	WNV
Orange	ORCO1005	3310	Cx. quinquefasciatus	Buena Park	45	GRVD	8/28/19	WNV
Orange	ORCO1008	3337	Cx. quinquefasciatus	Fullerton	45	GRVD	8/28/19	WNV
Orange	ORCO1008	3338	Cx. quinquefasciatus	Fullerton	39	GRVD	8/28/19	WNV
Orange	ORCO218	3340	Cx. quinquefasciatus	Anaheim	50	GRVD	8/28/19	WNV
Orange	ORCO1008	3344	Cx. quinquefasciatus	Fullerton	38	GRVD	8/28/19	WNV
Orange	ORCO1008	3345	Cx. quinquefasciatus	Fullerton	33	GRVD	8/28/19	WNV
Orange	ORCO1008	3347	Cx. quinquefasciatus	Fullerton	31	GRVD	8/28/19	WNV
Orange	ORCO1005	3354	Cx. quinquefasciatus	Buena Park	32	GRVD	8/28/19	WNV
Orange	ORCO1009	3373	Cx. quinquefasciatus	Garden Grove	42	GRVD	8/29/19	WNV
Orange	ORCO1005	3374	Cx. quinquefasciatus	Buena Park	39	GRVD	8/29/19	WNV
Orange	ORCO1005	3390	Cx. quinquefasciatus	Buena Park	43	GRVD	8/29/19	WNV
Orange	ORCO302	3400	Cx. quinquefasciatus	Anaheim	27	GRVD	8/29/19	WNV
Orange	ORCO1015	3408	Cx. quinquefasciatus	Orange	20	GRVD	8/29/19	WNV
Orange	ORCO238	3422	Cx. quinquefasciatus	Anaheim	36	GRVD	8/29/19	WNV
Orange	ORCO3	3428	Cx. quinquefasciatus	Garden Grove	36	GRVD	8/29/19	SLEV
Orange	ORCO1005	3431	Cx. quinquefasciatus	Buena Park	46	GRVD	8/29/19	WNV
Orange	ORCO1005	3432	Cx. quinquefasciatus	Buena Park	46	GRVD	8/29/19	WNV
Orange	ORCO241	3434	Cx. quinquefasciatus	Stanton	33	GRVD	8/29/19	WNV
Orange	ORCO243	3470	Cx. quinquefasciatus	Anaheim	36	GRVD	8/29/19	WNV
Orange	ORCO322	3471	Cx. quinquefasciatus	Garden Grove	50	GRVD	8/29/19	WNV
Orange	ORCO235	3489	Cx. quinquefasciatus	Stanton	36	GRVD	9/4/19	WNV
Orange	ORCO235	3491	Cx. quinquefasciatus	Stanton	46	GRVD	9/4/19	WNV
Orange	ORCO52	3508	Cx. quinquefasciatus	Anaheim	43	GRVD	9/4/19	WNV
Orange	ORCO302	3511	Cx. quinquefasciatus	Anaheim	45	GRVD	9/4/19	WNV
Orange	ORCO321	3518	Cx. quinquefasciatus	Anaheim	50	GRVD	9/4/19	WNV
Orange	ORCO236	3531	Cx. quinquefasciatus	Garden Grove	37	GRVD	9/4/19	WNV
Orange	ORCO1033	3538	Cx. quinquefasciatus	Tustin	47	GRVD	9/4/19	WNV
Orange	ORCO1033	3539	Cx. quinquefasciatus	Tustin	47	GRVD	9/4/19	WNV
Orange	ORCO205	3543	Cx. quinquefasciatus	Tustin	18	GRVD	9/4/19	WNV
Orange	ORCO218	3576	Cx. quinquefasciatus	Anaheim	14	GRVD	9/4/19	WNV
Orange	ORCO218	3583	Cx. quinquefasciatus	Anaheim	28	GRVD	9/5/19	WNV
Orange	ORCO238	3588	Cx. quinquefasciatus	Anaheim	28	GRVD	9/5/19	WNV
Orange	ORCO218	3593	Cx. quinquefasciatus	Anaheim	50	GRVD	9/5/19	WNV
Orange	ORCO218	3598	Cx. quinquefasciatus	Anaheim	26	GRVD	9/5/19	WNV
Orange	ORCO218	3603	Cx. quinquefasciatus	Anaheim	51	GRVD	9/5/19	WNV
Orange	ORCO1008	3613	Cx. quinquefasciatus	Fullerton	32	GRVD	9/5/19	WNV
Orange	ORCO1005	3619	Cx. quinquefasciatus	Buena Park	41	GRVD	9/5/19	WNV
Orange	ORCO1005	3622	Cx. quinquefasciatus	Buena Park	31	GRVD	9/5/19	WNV
Orange	ORCO1008	3630	Cx. quinquefasciatus	Fullerton	44	GRVD	9/5/19	WNV
Orange	ORCO1006	3632	Cx. quinquefasciatus	Cypress	38	GRVD	9/5/19	WNV

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Orange	ORCO1008	3633	Cx. quinquefasciatus	Fullerton	28	GRVD	9/5/19	WNV
Orange	ORCO218	3635	Cx. quinquefasciatus	Anaheim	49	GRVD	9/5/19	WNV
Orange	ORCO218	3638	Cx. quinquefasciatus	Anaheim	50	GRVD	9/5/19	WNV
Orange	ORCO218	3641	Cx. quinquefasciatus	Anaheim	50	GRVD	9/5/19	WNV
Orange	ORCO218	3642	Cx. quinquefasciatus	Anaheim	25	GRVD	9/5/19	WNV
Orange	ORCO218	3643	Cx. quinquefasciatus	Anaheim	20	GRVD	9/5/19	WNV
Orange	ORCO218	3664	Cx. quinquefasciatus	Anaheim	47	GRVD	9/5/19	WNV
Orange	ORCO235	3671	Cx. quinquefasciatus	Stanton	42	GRVD	9/5/19	WNV
Orange	ORCO235	3672	Cx. quinquefasciatus	Stanton	42	GRVD	9/5/19	WNV
Orange	ORCO1005	3680	Cx. quinquefasciatus	Buena Park	37	GRVD	9/5/19	WNV
Orange	ORCO1015	3684	Cx. quinquefasciatus	Orange	37	GRVD	9/5/19	WNV
Orange	ORCO1015	3685	Cx. quinquefasciatus	Orange	36	GRVD	9/5/19	WNV
Orange	ORCO1015	3694	Cx. quinquefasciatus	Orange	50	GRVD	9/5/19	WNV
Orange	ORCO1015	3695	Cx. quinquefasciatus	Orange	40	GRVD	9/5/19	WNV
Orange	ORCO1036	3705	Cx. quinquefasciatus	Buena Park	40	GRVD	9/5/19	WNV
Orange	ORCO323	3709	Cx. quinquefasciatus	Buena Park	50	GRVD	9/5/19	WNV
Orange	ORCO1038	3723	Cx. quinquefasciatus	La Palma	30	GRVD	9/5/19	WNV
Orange	ORCO1038	3724	Cx. quinquefasciatus	La Palma	33	GRVD	9/5/19	WNV
Placer	PLCR1114	2004	Cx. tarsalis	Lincoln	21	CO2	9/3/19	WNV
Placer	PLCR1113	2019	Cx. tarsalis	Lincoln	49	CO2	9/3/19	WNV
Placer	PLCR194232	2029	Cx. tarsalis	Lincoln	39	CO2	9/3/19	WNV
Riverside	COAV344	4859	Cx. quinquefasciatus	La Quinta	40	GRVD	9/4/19	WNV
Riverside	COAV0	4883	Cx. quinquefasciatus	Palm Springs	31	GRVD	9/5/19	WNV
Riverside	COAV122	4891	Cx. tarsalis		50	CO2	9/5/19	SLEV
Riverside	COAV122	4892	Cx. tarsalis		50	CO2	9/5/19	SLEV
Riverside	COAV122	4894	Cx. tarsalis		50	CO2	9/5/19	SLEV
Riverside	COAV122	4895	Cx. tarsalis		50	CO2	9/5/19	SLEV
Riverside	COAV121	4915	Cx. tarsalis		50	CO2	9/5/19	WNV
Riverside	COAV121	4916	Cx. tarsalis		50	CO2	9/5/19	SLEV
Riverside	COAV45	4922	Cx. tarsalis		50	CO2	9/5/19	WNV
Riverside	COAV45	4923	Cx. tarsalis		50	CO2	9/5/19	SLEV
Riverside	COAV45	4924	Cx. tarsalis		50	CO2	9/5/19	SLEV
Riverside	COAV48	4928	Cx. tarsalis		50	CO2	9/5/19	SLEV
Riverside	COAV48	4929	Cx. tarsalis		50	CO2	9/5/19	WNV
Riverside	COAV48	4930	Cx. tarsalis		50	CO2	9/5/19	WNV
Riverside	COAV48	4931	Cx. tarsalis		50	CO2	9/5/19	SLEV
Riverside	COAV46	4932	Cx. tarsalis		50	CO2	9/5/19	SLEV
Riverside	COAV10	4934	Cx. tarsalis	Oasis	50	CO2	9/5/19	SLEV
Riverside	COAV10	4935	Cx. tarsalis	Oasis	50	CO2	9/5/19	SLEV
Riverside	COAV10	4936	Cx. tarsalis	Oasis	50	CO2	9/5/19	SLEV
Riverside	COAV46	4938	Cx. tarsalis		29	CO2	9/5/19	SLEV
Riverside	COAV123	4939	Cx. tarsalis		50	CO2	9/5/19	SLEV
Riverside	COAV123	4940	Cx. tarsalis		50	CO2	9/5/19	SLEV
Riverside	COAV123	4940	Cx. tarsalis		50	CO2	9/5/19	WNV
Riverside	COAV123	4942	Cx. tarsalis		50	CO2	9/5/19	SLEV
Riverside	COAV123	4943	Cx. tarsalis		50	CO2	9/5/19	SLEV
Riverside	COAV611	4970	Cx. tarsalis		50	CO2	9/5/19	SLEV
Riverside	COAV611	4971	Cx. tarsalis		50	CO2	9/5/19	SLEV
Riverside	COAV611	4972	Cx. tarsalis		50	CO2	9/5/19	SLEV
Riverside	COAV200	4973	Cx. tarsalis	Mecca	10	BGSENT	9/6/19	SLEV
Sacramento	SAYO255007	5132	Cx. pipiens	Clay	31	CO2	8/30/19	WNV
Sacramento	SAYO254016	5142	Cx. pipiens	Galt	50	CO2	8/30/19	WNV
Sacramento	SAYO271007	5222	Cx. tarsalis	Isleton	23	CO2	8/30/19	WNV
Sacramento	SAYO233068	5265	Cx. pipiens	Elk Grove	41	CO2	9/4/19	WNV

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Sacramento	SAYO233009	5271	Cx. tarsalis	Sacramento	20	CO2	9/4/19	WNV
San Bernardino	SANB47	885	Cx. quinquefasciatus	San Bernardino	8	CO2	8/29/19	WNV
San Bernardino	WVAL5004	2127	Cx. quinquefasciatus	Rancho Cucamonga	23	GRVD	8/27/19	WNV
San Bernardino	WVAL257	2178	Cx. quinquefasciatus	Upland	10	GRVD	9/4/19	WNV
San Bernardino	WVAL2001	2201	Cx. tarsalis	Chino Hills	5	CO2	9/5/19	WNV
San Bernardino	WVAL2003	2220	Cx. tarsalis	Chino	50	CO2	9/5/19	WNV
San Bernardino	WVAL4331	2233	Cx. quinquefasciatus	Rancho Cucamonga	27	BGSENT	9/6/19	WNV
San Joaquin	SJCM8223	1858	Cx. pipiens	Stockton	17	CO2	9/4/19	WNV
San Joaquin	SJCM8125	1863	Cx. tarsalis	Stockton	47	CO2	9/4/19	WNV
San Joaquin	SJCM8100	1864	Cx. tarsalis	Tracy	50	CO2	9/4/19	WNV
San Joaquin	SJCM8100	1865	Cx. tarsalis	Tracy	50	CO2	9/4/19	WNV
San Joaquin	SJCM8100	1866	Cx. tarsalis	Tracy	50	CO2	9/4/19	WNV
San Joaquin	SJCM8100	1867	Cx. tarsalis	Tracy	24	CO2	9/4/19	WNV
San Joaquin	SJCM8100	1868	Cx. pipiens	Tracy	21	CO2	9/4/19	WNV
San Joaquin	SJCM8219	1874	Cx. tarsalis	Stockton	50	CO2	9/4/19	WNV
San Joaquin	SJCM8219	1875	Cx. tarsalis	Stockton	13	CO2	9/4/19	WNV
San Joaquin	SJCM8094	1886	Cx. tarsalis	Tracy	54	CO2	9/4/19	WNV
San Joaquin	SJCM8213	1887	Cx. tarsalis	Lodi	19	CO2	9/4/19	WNV
San Joaquin	SJCM8008	1888	Cx. tarsalis	Manteca	34	CO2	9/4/19	WNV
San Joaquin	SJCM8230	1893	Cx. tarsalis	Thornton	50	CO2	9/4/19	WNV
San Joaquin	SJCM8230	1894	Cx. tarsalis	Thornton	50	CO2	9/4/19	WNV
San Joaquin	SJCM8230	1895	Cx. tarsalis	Thornton	50	CO2	9/4/19	WNV
San Joaquin	SJCM8230	1897	Cx. tarsalis	Thornton	50	CO2	9/4/19	WNV
San Joaquin	SJCM8230	1898	Cx. tarsalis	Thornton	50	CO2	9/4/19	WNV
San Joaquin	SJCM8230	1900	Cx. pipiens	Thornton	38	CO2	9/4/19	WNV
San Joaquin	SJCM8206	1901	Cx. tarsalis	Thornton	50	CO2	9/4/19	WNV
San Joaquin	SJCM8206	1902	Cx. tarsalis	Thornton	50	CO2	9/4/19	WNV
San Joaquin	SJCM8206	1903	Cx. tarsalis	Thornton	50	CO2	9/4/19	WNV
San Joaquin	SJCM8206	1904	Cx. tarsalis	Thornton	50	CO2	9/4/19	WNV
San Joaquin	SJCM8206	1905	Cx. tarsalis	Thornton	50	CO2	9/4/19	WNV
San Joaquin	SJCM8206	1906	Cx. tarsalis	Thornton	50	CO2	9/4/19	WNV
San Joaquin	SJCM8206	1909	Cx. pipiens	Thornton	50	CO2	9/4/19	WNV
San Joaquin	SJCM8206	1910	Cx. pipiens	Thornton	50	CO2	9/4/19	WNV
San Joaquin	SJCM8206	1911	Cx. pipiens	Thornton	50	CO2	9/4/19	WNV
San Joaquin	SJCM8206	1912	Cx. pipiens	Thornton	50	CO2	9/4/19	WNV
San Joaquin	SJCM8206	1913	Cx. pipiens	Thornton	50	CO2	9/4/19	WNV
San Joaquin	SJCM8206	1914	Cx. pipiens	Thornton	50	CO2	9/4/19	WNV
San Joaquin	SJCM8206	1915	Cx. pipiens	Thornton	50	CO2	9/4/19	WNV
San Joaquin	SJCM8206	1916	Cx. pipiens	Thornton	50	CO2	9/4/19	WNV
San Joaquin	SJCM8079	1929	Cx. pipiens	Manteca	50	CO2	9/4/19	WNV
San Joaquin	SJCM8079	1930	Cx. pipiens	Manteca	15	CO2	9/4/19	WNV
San Joaquin	SJCM8204	1933	Cx. tarsalis	Stockton	50	CO2	9/4/19	WNV
San Joaquin	SJCM8204	1934	Cx. tarsalis	Stockton	50	CO2	9/4/19	WNV
San Joaquin	SJCM8204	1935	Cx. tarsalis	Stockton	50	CO2	9/4/19	WNV
San Joaquin	SJCM8204	1937	Cx. tarsalis	Stockton	50	CO2	9/4/19	WNV
San Joaquin	SJCM8204	1938	Cx. tarsalis	Stockton	28	CO2	9/4/19	WNV
San Joaquin	SJCM8204	1939	Cx. pipiens	Stockton	50	CO2	9/4/19	WNV
San Joaquin	SJCM8204	1940	Cx. pipiens	Stockton	6	CO2	9/4/19	WNV
San Joaquin	SJCM8010	1947	Cx. tarsalis	Ripon	50	CO2	9/4/19	WNV
San Joaquin	SJCM8041	1953	Cx. tarsalis	Lodi	53	CO2	9/4/19	WNV
San Joaquin	SJCM8227	1978	Cx. pipiens	Ripon	7	CO2	9/6/19	WNV
San Joaquin	SJCM8218	1980	Cx. pipiens	Escalon	50	CO2	9/6/19	WNV

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San Joaquin	SJCM8218	1981	Cx. pipiens	Escalon	50	CO2	9/6/19	WNV
San Joaquin	SJCM8218	1982	Cx. pipiens	Escalon	50	CO2	9/6/19	WNV
San Joaquin	SJCM8218	1983	Cx. pipiens	Escalon	50	CO2	9/6/19	WNV
San Joaquin	SJCM8218	1984	Cx. pipiens	Escalon	50	CO2	9/6/19	WNV
San Joaquin	SJCM8218	1985	Cx. pipiens	Escalon	50	CO2	9/6/19	WNV
San Joaquin	SJCM8218	1986	Cx. pipiens	Escalon	50	CO2	9/6/19	WNV
San Joaquin	SJCM8218	1987	Cx. pipiens	Escalon	41	CO2	9/6/19	WNV
San Joaquin	SJCM8208	1992	Cx. tarsalis	Lockeford	50	CO2	9/6/19	WNV
San Joaquin	SJCM8208	1993	Cx. tarsalis	Lockeford	50	CO2	9/6/19	WNV
San Joaquin	SJCM8208	1994	Cx. tarsalis	Lockeford	50	CO2	9/6/19	WNV
San Joaquin	SJCM8208	1995	Cx. tarsalis	Lockeford	46	CO2	9/6/19	WNV
San Joaquin	SJCM8208	1996	Cx. pipiens	Lockeford	49	CO2	9/6/19	WNV
San Joaquin	SJCM8209	2008	Cx. tarsalis	Lockeford	23	CO2	9/6/19	WNV
Stanislaus	TRLK1616	954	Cx. tarsalis	Modesto	25	CO2	9/4/19	WNV
Stanislaus	TRLK424	963	Cx. tarsalis	Patterson	50	CO2	9/4/19	WNV
Stanislaus	TRLK9732	977	Cx. tarsalis	Newman	50	CO2	9/4/19	WNV
Stanislaus	TRLK9732	980	Cx. tarsalis	Newman	50	CO2	9/4/19	SLEV
Stanislaus	TRLK17274	986	Cx. pipiens	Newman	22	CO2	9/4/19	SLEV
Stanislaus	TRLK312	994	Cx. tarsalis	Newman	50	CO2	9/4/19	WNV
Stanislaus	TRLK307	1012	Cx. tarsalis	Patterson	19	CO2	9/4/19	WNV
Stanislaus	TRLK307	1013	Cx. pipiens	Patterson	50	CO2	9/4/19	WNV
Stanislaus	TRLK19362	1019	Cx. tarsalis	Turlock	25	CO2	9/4/19	WNV
Stanislaus	EAST1088	19182	Cx. pipiens	Modesto	27	CO2	8/26/19	WNV
Sutter	SUYA15	426	Cx. tarsalis	Robbins	50	CO2	9/4/19	WNV
Tulare	TLRE202401	26	Cx. quinquefasciatus	Tulare	19	GRVD	8/28/19	SLEV
Tulare	TLRE192435	28	Cx. quinquefasciatus	Tulare	18	GRVD	8/28/19	WNV
Tulare	TLRE192436	30	Cx. quinquefasciatus	Tulare	29	GRVD	8/28/19	WNV
Tulare	TLRE202518	32	Cx. quinquefasciatus	Tulare	28	GRVD	8/30/19	SLEV
Tulare	TLRE202401	33	Cx. quinquefasciatus	Tulare	50	GRVD	8/30/19	WNV
Tulare	TLRE192507	38	Cx. quinquefasciatus	Visalia	50	GRVD	9/4/19	WNV
Tulare	TLRE192508	40	Cx. quinquefasciatus	Visalia	50	GRVD	9/4/19	WNV
Tulare	TLRE192508	42	Cx. quinquefasciatus	Visalia	39	GRVD	9/4/19	SLEV
Tulare	DLTA8416	2889	Cx. quinquefasciatus	Visalia	48	CO2	8/22/19	WNV
Tulare	DLTA8421	2900	Cx. quinquefasciatus	Visalia	50	CO2	8/22/19	SLEV
Tulare	DLTA8421	2907	Cx. quinquefasciatus	Visalia	50	CO2	8/22/19	SLEV
Tulare	DLTA8421	2909	Cx. quinquefasciatus	Visalia	16	CO2	8/22/19	WNV
Tulare	DLTA6417	2914	Cx. quinquefasciatus	Dinuba	13	GRVD	8/22/19	WNV
Tulare	DLTA8422	2915	Cx. quinquefasciatus	Visalia	20	GRVD	8/22/19	WNV
Tulare	DLTA8529	2923	Cx. quinquefasciatus	Visalia	15	GRVD	8/22/19	WNV
Tulare	DLTA7730	2925	Cx. quinquefasciatus	Woodlake	15	GRVD	8/22/19	WNV
Tulare	DLTA9402	2930	Cx. quinquefasciatus	Visalia	12	GRVD	8/23/19	WNV
Tulare	DLTA6404	2935	Cx. quinquefasciatus	Dinuba	50	CO2	8/23/19	WNV
Tulare	DLTA6404	2939	Cx. stigmatosoma	Dinuba	50	CO2	8/23/19	WNV
Tulare	DLTA6404	2940	Cx. stigmatosoma	Dinuba	50	CO2	8/23/19	WNV
Tulare	DLTA6404	2942	Cx. quinquefasciatus	Dinuba	50	CO2	8/23/19	WNV
Tulare	DLTA6404	2945	Cx. tarsalis	Dinuba	44	CO2	8/23/19	WNV
Tulare	DLTA6404	2946	Cx. stigmatosoma	Dinuba	37	CO2	8/23/19	WNV
Tulare	DLTA9607	2947	Cx. quinquefasciatus	Exeter	28	BGSENT	8/23/19	WNV
Tulare	DLTA6404	2948	Cx. quinquefasciatus	Dinuba	50	CO2	8/23/19	SLEV
Tulare	DLTA6404	2948	Cx. quinquefasciatus	Dinuba	50	CO2	8/23/19	WNV
Tulare	DLTA6404	2949	Cx. quinquefasciatus	Dinuba	50	CO2	8/23/19	WNV
Tulare	DLTA6404	2951	Cx. tarsalis	Dinuba	50	CO2	8/23/19	WNV
Tulare	DLTA6404	2952	Cx. tarsalis	Dinuba	23	CO2	8/23/19	SLEV
Tulare	DLTA6404	2952	Cx. tarsalis	Dinuba	23	CO2	8/23/19	WNV

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Tulare	DLTA6408	2955	Cx. quinquefasciatus	Dinuba	39	GRVD	8/23/19	WNV
Tulare	DLTA8427	2957	Cx. quinquefasciatus	Visalia	29	GRVD	8/23/19	WNV
Tulare	DLTA8512	2958	Cx. quinquefasciatus	Ivanhoe	10	GRVD	8/23/19	WNV
Tulare	DLTA8519	2960	Cx. quinquefasciatus	Visalia	11	GRVD	8/23/19	WNV
Tulare	DLTA9606	2966	Cx. quinquefasciatus	Farmersville	22	GRVD	8/23/19	WNV
Tulare	DLTA8527	2967	Cx. quinquefasciatus	Visalia	27	GRVD	8/23/19	WNV
Tulare	DLTA9402	3100	Cx. quinquefasciatus	Visalia	25	GRVD	8/30/19	WNV
Tulare	DLTA9506	3107	Cx. quinquefasciatus	Visalia	16	GRVD	8/30/19	WNV
Tulare	DLTA6408	3108	Cx. quinquefasciatus	Dinuba	49	GRVD	8/30/19	WNV
Tulare	DLTA8427	3109	Cx. quinquefasciatus	Visalia	50	GRVD	8/30/19	WNV
Tulare	DLTA6416	3112	Cx. quinquefasciatus	Dinuba	50	GRVD	8/30/19	WNV
Tulare	DLTA6416	3113	Cx. quinquefasciatus	Dinuba	17	GRVD	8/30/19	WNV
Tulare	DLTA8423	3114	Cx. quinquefasciatus	Visalia	50	GRVD	8/30/19	SLEV
Tulare	DLTA9610	3119	Cx. quinquefasciatus	Exeter	22	GRVD	8/30/19	WNV
Tulare	DLTA7529	3124	Cx. quinquefasciatus	Ivanhoe	50	CO2	9/4/19	WNV
Tulare	DLTA7529	3125	Cx. quinquefasciatus	Ivanhoe	50	CO2	9/4/19	WNV
Tulare	DLTA7529	3128	Cx. quinquefasciatus	Ivanhoe	50	CO2	9/4/19	WNV
Tulare	DLTA7517	3133	Cx. quinquefasciatus	Ivanhoe	50	CO2	9/4/19	WNV
Tulare	DLTA7517	3136	Cx. quinquefasciatus	Ivanhoe	40	CO2	9/4/19	WNV
Tulare	DLTA7517	3138	Cx. tarsalis	Ivanhoe	50	CO2	9/4/19	WNV
Tulare	DLTA7519	3142	Cx. quinquefasciatus	Visalia	50	CO2	9/4/19	WNV
Tulare	DLTA8436	3179	Cx. quinquefasciatus	Visalia	16	GRVD	9/4/19	WNV
Tulare	DLTA8501	3185	Cx. quinquefasciatus	Ivanhoe	20	GRVD	9/4/19	WNV
Tulare	DLTA8521	3190	Cx. quinquefasciatus	Visalia	10	GRVD	9/4/19	WNV
Tulare	DLTA6520	3195	Cx. quinquefasciatus	Orosi-Cutler	12	GRVD	9/4/19	WNV
Tulare	DLTA6408	3199	Cx. quinquefasciatus	Dinuba	11	GRVD	9/4/19	WNV
Tulare	DLTA8324	3201	Cx. quinquefasciatus	Visalia	21	BGSENT	9/4/19	SLEV
Tulare	DLTA6417	3202	Cx. quinquefasciatus	Dinuba	42	GRVD	9/4/19	WNV
Tulare	DLTA6404	3215	Cx. quinquefasciatus	Dinuba	35	CO2	9/5/19	WNV
Tulare	DLTA6404	3216	Cx. tarsalis	Dinuba	43	CO2	9/5/19	SLEV
Tulare	DLTA6404	3221	Cx. tarsalis	Dinuba	17	CO2	9/5/19	SLEV
Tulare	DLTA6404	3225	Cx. quinquefasciatus	Dinuba	50	CO2	9/5/19	SLEV
Tulare	DLTA6404	3227	Cx. tarsalis	Dinuba	20	CO2	9/5/19	WNV
Tulare	DLTA6408	3229	Cx. quinquefasciatus	Dinuba	12	GRVD	9/5/19	WNV
Tulare	DLTA6407	3232	Cx. quinquefasciatus	Dinuba	50	GRVD	9/5/2019	WNV
Tulare	DLTA6417	3239	Cx. quinquefasciatus	Dinuba	32	GRVD	9/5/19	WNV
Yolo	SAYO135010	5074	Cx. tarsalis	Woodland	50	CO2	8/30/19	WNV
Yolo	SAYO135020	5086	Cx. tarsalis	Woodland	50	CO2	8/30/19	WNV
Yolo	SAYO135016	5105	Cx. tarsalis	Woodland	50	CO2	8/30/19	WNV
Yolo	SAYO146006	5231	Cx. tarsalis	Davis	50	CO2	9/4/19	WNV
Yolo	SAYO103007	5372	Cx. tarsalis	Dunnigan	50	CO2	9/4/19	WNV
Yolo	SAYO103007	5376	Cx. pipiens	Dunnigan	31	GRVD	9/4/19	WNV
Yolo	SAYO115008	5377	Cx. tarsalis	Knights Landing	50	CO2	9/4/19	WNV
Yolo	SAYO115008	5378	Cx. tarsalis	Knights Landing	50	CO2	9/4/19	WNV
Yuba	SUYA37	425	Cx. tarsalis	Marysville	16	CO2	9/4/19	WNV

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Sentinel Chickens

County	Site Code	City	Date Bled	Virus	Band 01	Band 02	Band 03	Band 04
Butte	BUCO0001	Chico	8/27/2019	WNV	1940	1943	1945	
Butte	BUCO0002	Oroville	8/27/2019	WNV	1946	1947	1951	
Butte	BUCO0003	Oroville	8/27/2019	WNV	1954			
Butte	BUCO0004	Gridley	8/27/2019	WNV	1959	1962	1963	
Butte	BUCO0006	Chico	8/27/2019	WNV	1971			
Butte	BUCO0007	Chico	8/27/2019	WNV	1978	1980		
Colusa	CLSA1002	Colusa	8/27/2019	WNV	1086	1087	1092	1095
Contra Costa	CNTR8152	Knightsen	8/26/2019	WNV	1402			
Merced	MERC0006	Merced	8/30/2019	WNV	1519			
Merced	MERC201501	Le Grand	8/30/2019	WNV	1543	1546	1548	
Sutter	SUYA0014	Sutter	8/29/2019	WNV	1837	1839		
Sutter	SUYA0030	Live Oak	8/29/2019	WNV	1848			
Tehama	TEHA0001	Red Bluff	8/27/2019	WNV	1912			
Tehama	TEHA100	Corning	8/27/2019	WNV	1924			
Yuba	SUYA0010	Olivehurst	8/29/2019	WNV	1821			

TEST PROTOCOLS

Humans:

Specimens are tested by local laboratories with an IgM or IgG immunofluorescent assay (IFA) and/or an IgM enzyme immunoassay (EIA). Specimens with inconclusive results are forwarded to the California Department of Public Health Viral and Rickettsial Disease Laboratory (VRDL) for further testing with a plaque reduction neutralization test (PRNT).

Dead Birds

Oral swab samples collected from bird carcasses are tested at the UC Davis Arbovirus Research and Training laboratory (DART) or at a local agency for West Nile virus by RT-qPCR.

Sentinel Chickens:

Dried blood spot samples from sentinel chickens are tested at the California Department of Public Health Vector-Borne Disease Laboratory for IgG antibodies to West Nile, St. Louis encephalitis, and western equine encephalomyelitis viruses by an EIA. Positive samples are confirmed by IFA, western-blot, or PRNT.

Mosquito Pools:

Mosquito pools are tested at DART or at a local agency for West Nile, western equine encephalomyelitis, and St. Louis encephalitis viral RNA using a multiplex RT-qPCR. Invasive *Aedes* mosquitoes (*Ae. aegypti* and *Ae. albopictus*) are also tested at DART for chikungunya, dengue, and Zika viral RNA by a separate RT-qPCR.

Prepared by the Vector-Borne Disease Section (Infectious Diseases Branch), California Department of Public Health, 850 Marina Bay Parkway, Richmond, CA 94804. Questions concerning this bulletin should be addressed to Tina Feiszli by phone (510) 412-6253 or email: tina.feiszli@cdph.ca.gov.

Website Information: For updated information on WNV in California, please visit the California WNV website, www.westnile.ca.gov, or the California Vectorborne Disease Surveillance System website, www.calsurv.org. For national information on WNV and other arboviruses, please visit the CDC websites: www.cdc.gov and https://www.cdc.gov/aronet/maps/ADB_Diseases_Map/index.html